Search History => d 17 1-2 abs,bib HAPLW, TUSECE JOPIO, US PATALLY
(1/18/2008)

ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2008 ACS on STN L7 AΒ Methods for treating nominally pure crystals having nonlinear optical properties, especially a lithium niobate crystal or lithium tantalate crystal, and which contains foreign atoms which cause absorption of light (particularly Fe2+ ions) in a residual concentration of <20 ppm in which a thermal oxidation causes the atoms to attain a higher oxidation ppm in which a thermal oxidation causes the atoms to attain a nigner oxidation state (e.g., Fe3+) while the excess electrons are eliminated from the crystal of applying a predetd. voltage are described in which the crystal his heated at a rate that increases by <3° per min to a maximum temperature that lies above a predefined threshold value and below the Curie temperature of the crystal, the threshold value being defined by the temperature at which the migration of ions contained in the crystal (particularly Littions) to the surface of the crystal ceases and being determined based on preceding tests on the same type of specifically doped reference crystals. Oxide nonlinear optical crystals treated as described above, and systems (e.g., frequency doublers and optical parametric oscillators) using the crystals are also described. AN 2007:1143101 HCAPLUS DN 147:436353 TΤ Treatment of crystals for the prevention of optical damage TN Buse, Karsten; Falk, Matthias; Woike, Theo PA Deutsche Telekom A.-G., Germany SO PCT Int. Appl., 27pp. CODEN: PIXXD2 DΤ Patent German LA FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. \_\_\_\_ -----\_\_\_\_\_ \_\_\_\_\_\_ PΤ WO 2007112719 Α1 20071011 WO 2007-DE468 20070315 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM DE 102006016201 20071011 DE 2006-102006016201 Α1 20060406 PRAI DE 2006-102006016201 A 20060406 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT ALL CITATIONS AVAILABLE IN THE RE FORMAT A method for the treatment of a crystal, such as a lithium niobate crystal or lithium tantalate crystal, having nonlinear optical properties. The crystal comprises foreign atoms which bring about specific absorption of radiated light. The foreign atoms are transformed into a lower valent state by means of exidation Electrons, which are released during oxidation, are discharged from the crystal with the aid of an external power source. L7 ANSWER 2 OF 2 USPATFULL ON STN AB

CAS INDEXING IS AVAILABLE FOR THIS PATENT. 2007:177187 USPATFULL

power source.

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Treatment of crystals in order to avoid light-induced modifications of
ΤI
       the refractive index
IN
       Buse, Karsten, Bonn, GERMANY, FEDERAL REPUBLIC OF
       Falk, Matthias, Bonn, GERMANY, FEDERAL REPUBLIC OF
       Peithmann, Konrad, Bonn, GERMANY, FEDERAL REPUBLIC OF
PΙ
       US 2<u>007155</u>004
                            A1 20070705
                               20040930 (10)
AI
       US_2004-597199
                            A1
       WO 2004-DE2176
                                20040930
                                20060714 PCT 371 date
PRAI
       DE 2004-10200400210920040114
DT
       Utility
FS
       APPLICATION
LREP
       DARBY & DARBY P.C., P. O. BOX 5257, NEW YORK, NY, 10150-5257, US
CLMN
       Number of Claims: 12
ECL
       Exemplary Claim: 1-11
DRWN
       2 Drawing Page(s)
LN.CNT 317
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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L1
L2
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L3
            754 S (REMOV? OR ELIMINAT? OR RID? OR DECREAS?) (8A) (ELECTRON#(8A) CR
L4
          19859 S (LITHIUM(W)TITANATE OR LITAO3 OR LITHIUM(W)NIOBATE OR LINBO3)
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614 S (CONVERT? OR ALTER? OR CHANG?) (8A) (ATOM#(6A) VALENC?)

1 S L1 AND L2 AND L3 AND L5

2 S L1 AND L2 AND L3 AND L4

L5

L6

L7

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ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN  $^{\text{L8}}$ Methods for treating nominally pure crystals having AΒ nonlinear optical properties, especially a lithium niobate crystal or lithium tantalate crystal, and which contains foreign atoms which cause absorption of light (particularly Fe2+ ions) in a residual concentration of <20 ppm in which a thermal oxidation causes the atoms to attain a higher oxidation state (e.g., Fe3+) while the excess electrons are eliminated from the crystal by applying a predetd. voltage are described in which the crystal is heated at a rate that increases by <3° per min to a maximum temperature that lies above a predefined threshold value and below the Curie temperature of the crystal, the threshold value being defined by the temperature at which the migration of ions contained in the crystal (particularly Li+ ions) to the surface of the crystal ceases and being determined based on preceding tests on the same type of specifically doped reference crystals. Oxide nonlinear optical crystals treated as described above, and systems (e.g., frequency doublers and optical parametric oscillators) using the crystals are also described. ΑN 2007:1143101 HCAPLUS DN 147:436353 TΙ Treatment of crystals for the prevention of optical damage IN Buse, Karsten; Falk, Matthias; Woike, Theo PΑ Deutsche Telekom A.-G., Germany SO PCT Int. Appl., 27pp. CODEN: PIXXD2 DТ Patent LA German FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE -----\_\_\_\_\_\_ PΙ WO 2007112719 A1 20071011 WO 2007-DE468 20070315 AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM DE 102006016201 Α1 20071011 DE 2006-102006016201 20060406 PRAI DE 2006-102006016201 A 20060406 RE.CNT THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT L8 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN AΒ The invention relates to a method for the treatment of a crystal in particular a lithium niobate crystal or lithium tantalate crystal, having nonlinear optical properties. The crystal comprises foreign atoms which cause specific absorption of radiated light. foreign atoms are transformed into a lower valence state by oxidation brought on by, e.g., heat treatment and application of an elec.

AN 2005:673440 HCAPLUS

DN 143:163625

TI Treatment of crystals to avoid light-induced modifications of the

the crystal with the aid of an external power source.

Electrons, which are released during oxidation, are discharged from

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refractive index and nonlinear optical elements
     containing the crystals
ΙN
     Buse, Karsten; Falk, Matthias; Peithmann, Konrad
PA
     Deutsche Telekom A.-G., Germany
SO
     PCT Int. Appl., 22 pp.
     CODEN: PIXXD2
DT
     Patent
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     German
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     WO 2004-DE2176
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              THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
rac{1}{2}
     ANSWER 3 OF 3 USPATFULL on STN
AΒ
       A method for the treatment of a crystal, such as a
       lithium niobate crystal or lithium tantalate
       crystal, having nonlinear optical
       properties. The crystal comprises foreign
       atoms which bring about specific absorption of radiated light.
       The foreign atoms are transformed into a lower
       valent state by means of oxidation. Electrons, which are released during
       oxidation, are discharged from the crystal with the aid of an external
       power source.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       2007:177187 USPATFULL
ΆN
TΙ
       Treatment of crystals in order to avoid light-induced modifications of
       the refractive index
ΙN
       Buse, Karsten, Bonn, GERMANY, FEDERAL REPUBLIC OF
       Falk, Matthias, Bonn, GERMANY, FEDERAL REPUBLIC OF
       Peithmann, Konrad, Bonn, GERMANY, FEDERAL REPUBLIC OF
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                               20040930 (10)
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                               20040930
                               20060714 PCT 371 date
PRAI
       DE 2004-10200400210920040114
DT
       Utility
FS
       APPLICATION
LREP
       DARBY & DARBY P.C., P. O. BOX 5257, NEW YORK, NY, 10150-5257, US
CLMN
      Number of Claims: 12
ECL
       Exemplary Claim: 1-11
DRWN
       2 Drawing Page(s)
LN.CNT 317
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# PALM INTRANET

Day: Friday Date: 1/18/2008

Time: 12:31:49

### **Inventor Name Search Result**

Your Search was:

Last Name = BUSE

First Name = KARSTEN

<b></b>					
Application#	Patent#	Status	Date Filed	Title	Inventor Name
09260523	6157470	150	02/25/1999	NON-VOLATILE HOLOGRAPHIC STORAGE IN DOUBLY-DORED PHOTOREFRACTIVE MATERIAL	BUSE, KARSTEN
09823173	6844946	150	03/29/2001	TUNABLE HOLOGRAPHIC FILTER	BUSE, KARSTEN
10006933	6987907	150	12/04/2001	TUNABLE HOLOGRAPHIC DROP FILTER WITH QUASI PHASE-CONJUGATE FIBER COUPLING	BUSE, KARSTEN
10006934	6829067	150	12/04/2001	METHOD AND APPARATUS FOR IMPLEMENTING A MULTI-CHANNEL TUNABLE FILTER	BUSE, KARSTEN
10006935	Not Issued	161	12/04/2001	Integrated optical wavelength division multiplexing using a bench of channel waveguides	BUSE, KARSTEN
10211768	6894820	150		NON-LINEAR INCREASE IN PHOTOSENSITIVITY OF PHOTOREFRACTIVE MATERIALS	BUSE, KARSTEN
10252465	Not Issued	161		Efficient nonlinear optical polymers having high poling stability	BUSE, KARSTEN
10541480	Not Issued	30		Increasing the resistance of crystals to optical damage	BUSE, KARSTEN
*(10597199	Not Issued	Applica	msts,	Treatment of crystals in order to avoid light-induced modifications of the refractive index	BUSE, KARSTEN
11004319	7136206	150		METHOD AND APPARATUS FOR IMPLEMENTING A MULTI-CHANNEL TUNABLE	BUSE, KARSTEN

				FILTER	
11092392	Not Issued	161	03/29/2005	Holographic pump coupler and laser grating reflector	BUSE, KARSTEN
11093135	Not Issued	71	03/29/2005	System and methods for spectral beam combining of lasers using volume holograms	BUSE, KARSTEN
11371506	Not Issued	30	03/08/2006	Method and apparatus for implementing a multi-channel tunable filter	BUSE, KARSTEN
60076150	Not Issued	159	02/26/1998	NON-VOLATILE HOLOGRAPHIC STORAGE IN DOUBLY-DOPED CRYSTALS	BUSE, KARSTEN
60193583	Not Issued	159	03/30/2000	Tunable holographic add-drop multiplexer	BUSĖ, KARSTEN
60251245	Not Issued	159	12/04/2000	Tunable holographic drop filter with quasi phase-conjugate fiber coupling	BUSE, KARSTEN
60251350	Not Issued	159	12/04/2000	Multi-channel\holographic tunable filter with access head	BUSE, KARSTEN
60251352	Not Issued	159	12/04/2000	Integrated optical wavelength division multiplexer using a bench of channel waveguides	BUSE, KARSTEN
60558008	Not Issued	159		System and methods for holographic beam shaping	BUSE, KARSTEN
60558212	Not Issued	159	03/30/2004	System and methods for refractive and diffractive volume holographic elements	BUSE, KARSTEN
60558331	Not Issued	159	03/30/2004	Holographic pump coupler and laser grating reflector	BUSE, KARSTEN

Inventor Search Completed: No Records to Display.

Search Another: Inventor	Last Name	First Name	
Scarcii Another. Inventor	Buse	Karsten Search	

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Day: Friday Date: 1/18/2008

Time: 12:32:12

#### **Inventor Name Search Result**

Your Search was:

Last Name = FALK

First Name = MATTHIAS

Application#	Patent#	Status	Date Filed	Title	Inventor Name
*10597199	Not Issued	30 Applic	ention	Treatment of crystals in order to avoid light-induced modifications of the refractive index	FALK, MATTHIAS
11643612	Not Issued	30		1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	FALKENBERG, MATTHIAS

Inventor Search Completed: No Records to Display.

Search Another:	Last Name	First Name	
Scarcii Another.	Falk	matthias	Search

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## **PALM INTRANET**

Day: Friday Date: 1/18/2008

Time: 12:32:49

#### **Inventor Name Search Result**

Your Search was:

Last Name = PEITHMANN

First Name = KONRAD

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<b>*</b> 10597199	Not . Issued	Appli	ntion	Treatment of crystals in order to avoid light-induced modifications of the refractive index	PEITHMANN, KONRAD

Inventor Search Completed: No Records to Display.

Search Another: Inventor	Last Name	First Name
Search Another. Inventor	Peithmann	Konrad Search

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